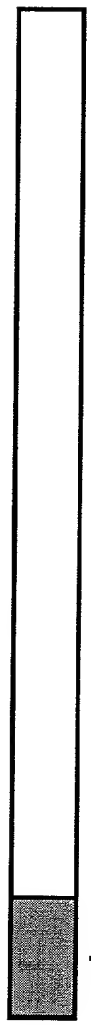


Fig. 1

Construct of Amb a1 cDNA - II

Full-length Amb a1 (396 codon)



Plant Leader Sequence (36AA)

Δ 36 Amb a1



ssHA Δ 36 Amb a1



Virus Leader Sequence (14AA)

Comparison of codon usage (Plant vs. Human)

HIS

	Plant	Human
CAT	83%	0%
CAC	17%	100%

GLN

	Plant	Human
CAA	90%	30%
CAG	10%	70%

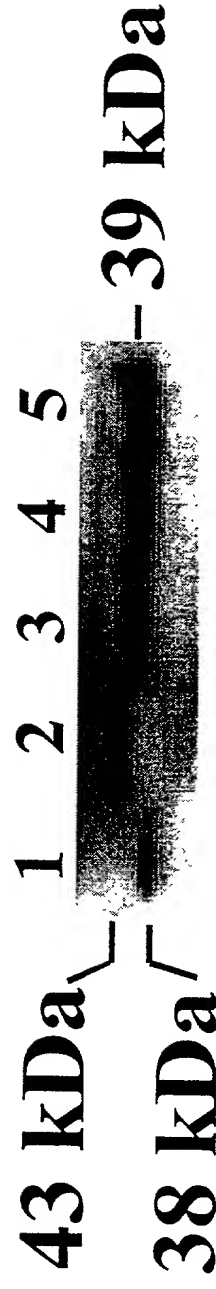
ASP

	Plant	Human
GAT	76%	31%
GAC	24%	69%

GLU

	Plant	Human
GAA	69%	25%
GAG	31%	75%

Expression of Amb a1 in COS-7 cell - III



- 1: Purified AgE
- 2: Amb a1/pNDK (x 1)
- 3: Δ36Amb a1/pNDK (x 3)
- 4: ssHAΔ36Amb a1/pNDK (x 3)
- 5: hssHAΔ36Amb a1/pNDK (x 10)

Figure 4A and 4B show the results of the experiment. The data indicate that the induction of antibody and cytokine is significantly higher in the pNDK group compared to the other groups.

Induction of Antigen-specific Antibody and Cytokine *in vivo* - III

Fig 4A

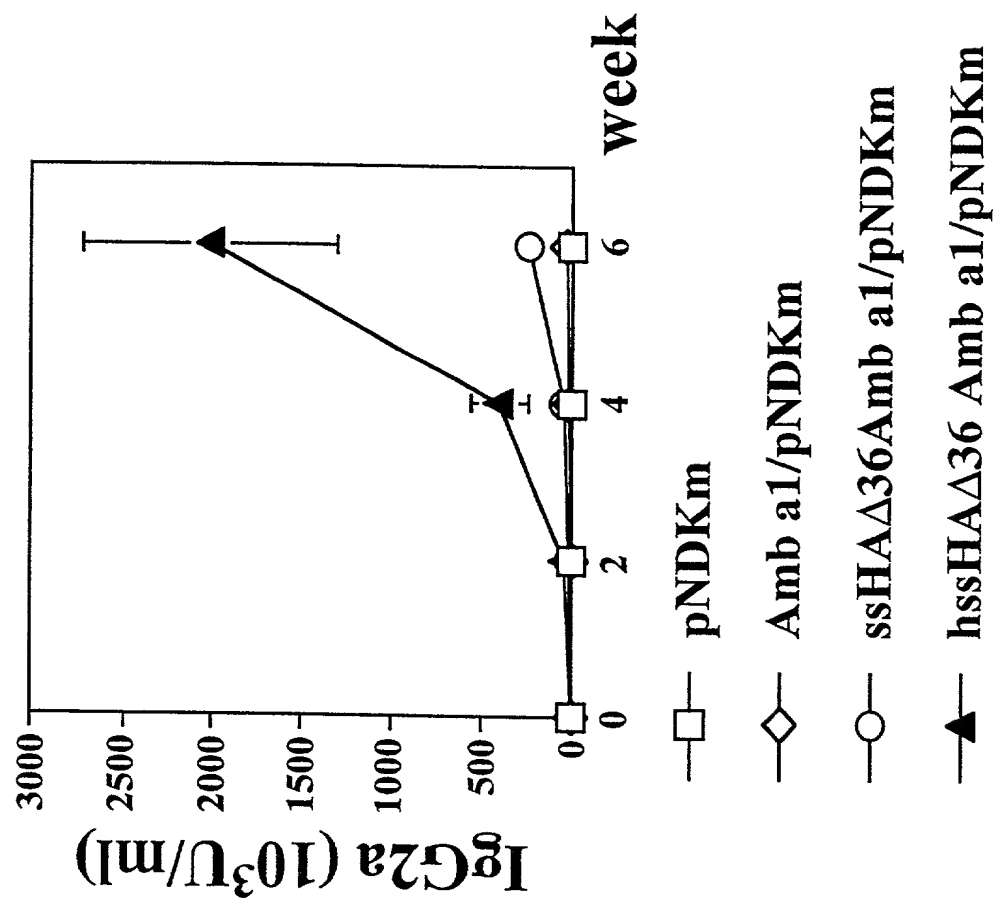
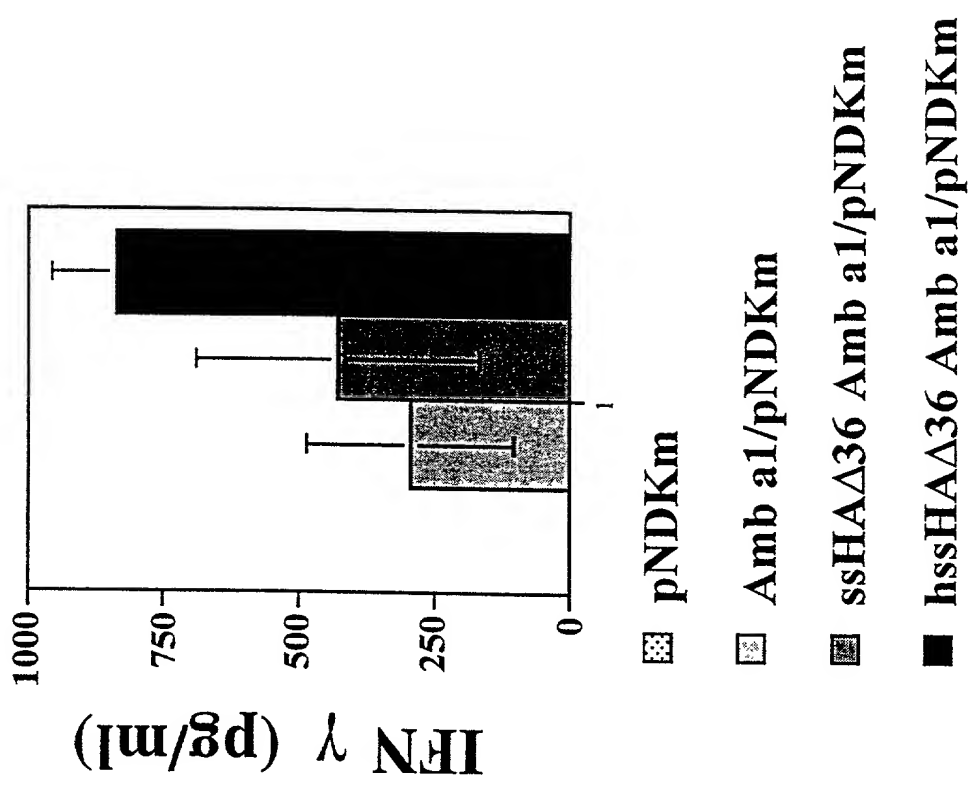


Fig. 4B



Induction of Antigen-specific Antibody and Cytokine *in vivo* - VI

(Co-injection of ISS-ODN with 50 μ g of hssHA Δ 36Amb a1/pNDK μ m)

Fig. 5A

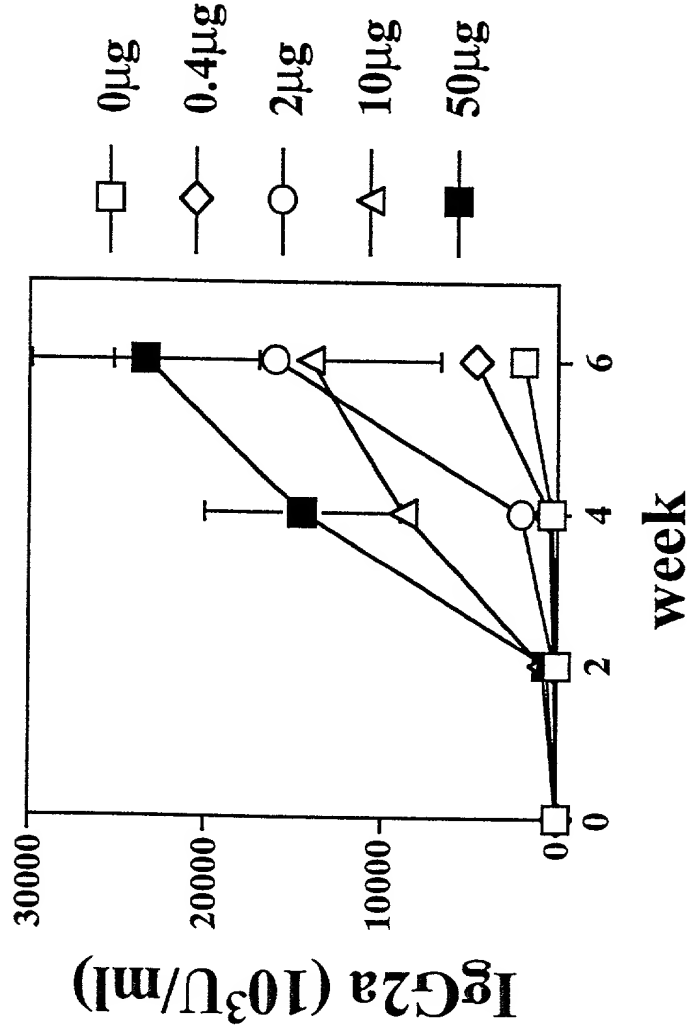


Fig. 5B

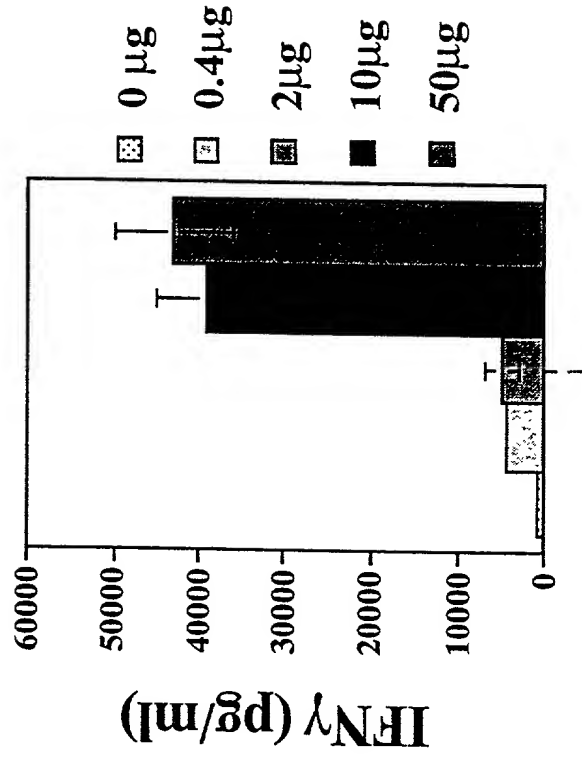
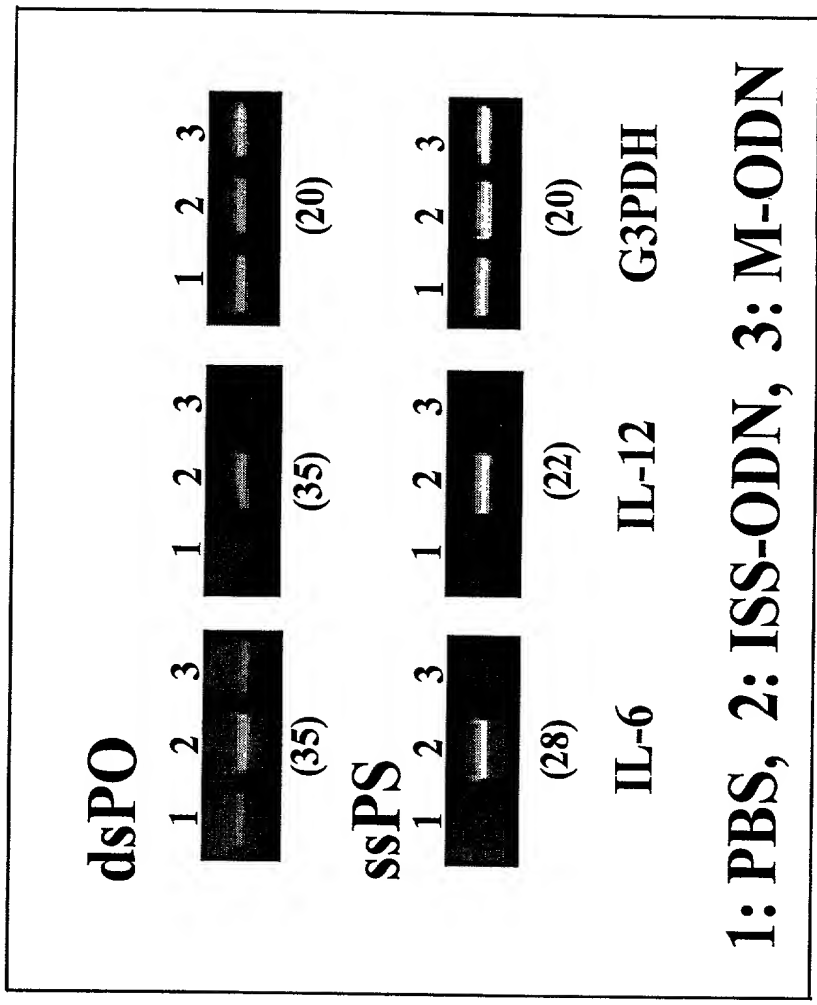


FIG. 6

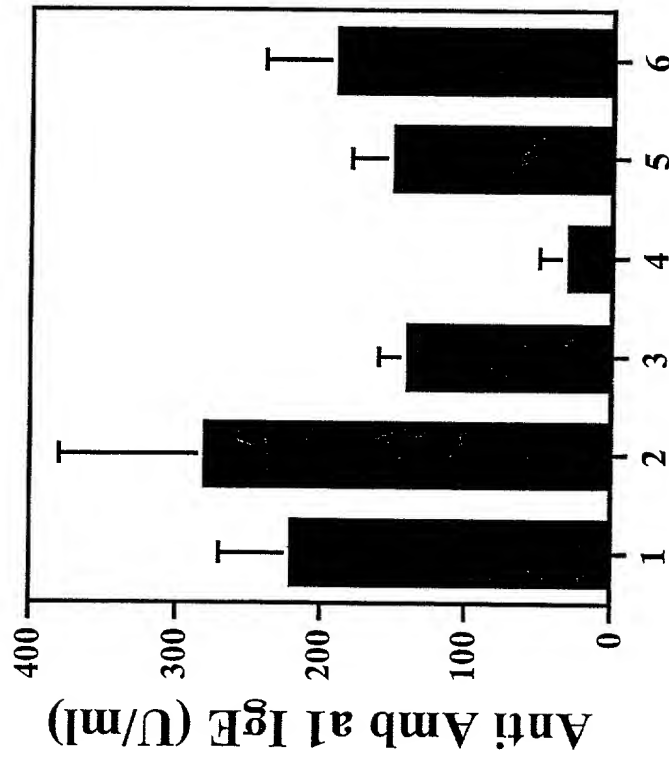
In vivo Efficacy of ISS-ODN (dsPO vs. ssPS)

- Injection of ISS-ODN(i.v.)
[200µg/mouse]
- Isolation of spleen after 2
hr post-injection
- Isolation of mRNA
- Detection of IL-6/IL-12
transcript by RT-PCR



Reduction of Amb a1-specific IgE *in vivo* (week 8)

Fig. 7A



- 1: PBS
- 2: pNDK m
- 3: pNDK m/hssHAΔ36Amb a1
- 4: pNDK m/hssHAΔ36Amb a1 + ISS-ODN
- 5: pNDK m/hssHAΔ36Amb a1 + M-ODN
- 6: ISS-ODN

Amb a1: 10μg/mouse
alum: 0.5 mg/mouse
pDNA: 50μg/mouse
ISS/M-ODN: 50μg/mouse

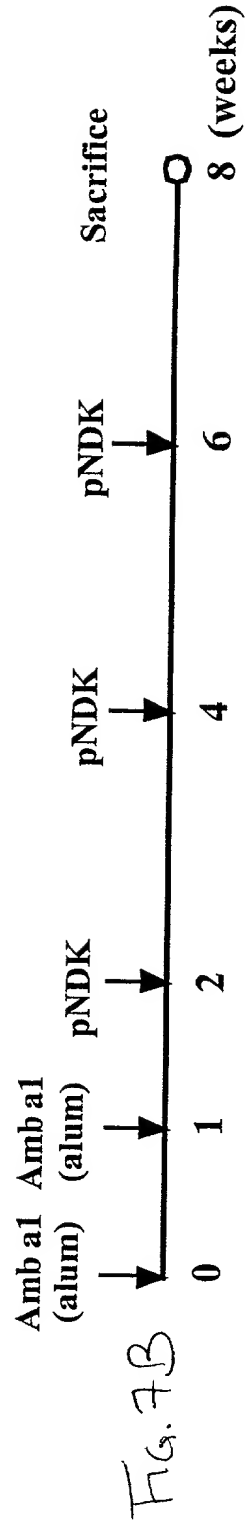


Fig. 7B